ABA / NLADA Equal Justice Conference 2000

Case Management Session for IT Professionals

Steve Green / Steve Leaden

S. R. Green & Associates

Houston, TX

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General Agenda

- Some Quotes, Some Trends
- Consultant intro
- Case Management and WANs
- Process And Challenges
- Some Examples

Some Quotes

"This 'telephone' has too many short-comings to be seriously considered as a means of communication."

- Western Union, Internal Memo, 1876

"I think there is a world market for maybe five computers."

- Thomas J. Watson, Chairman, IBM, 1943

Some Quotes

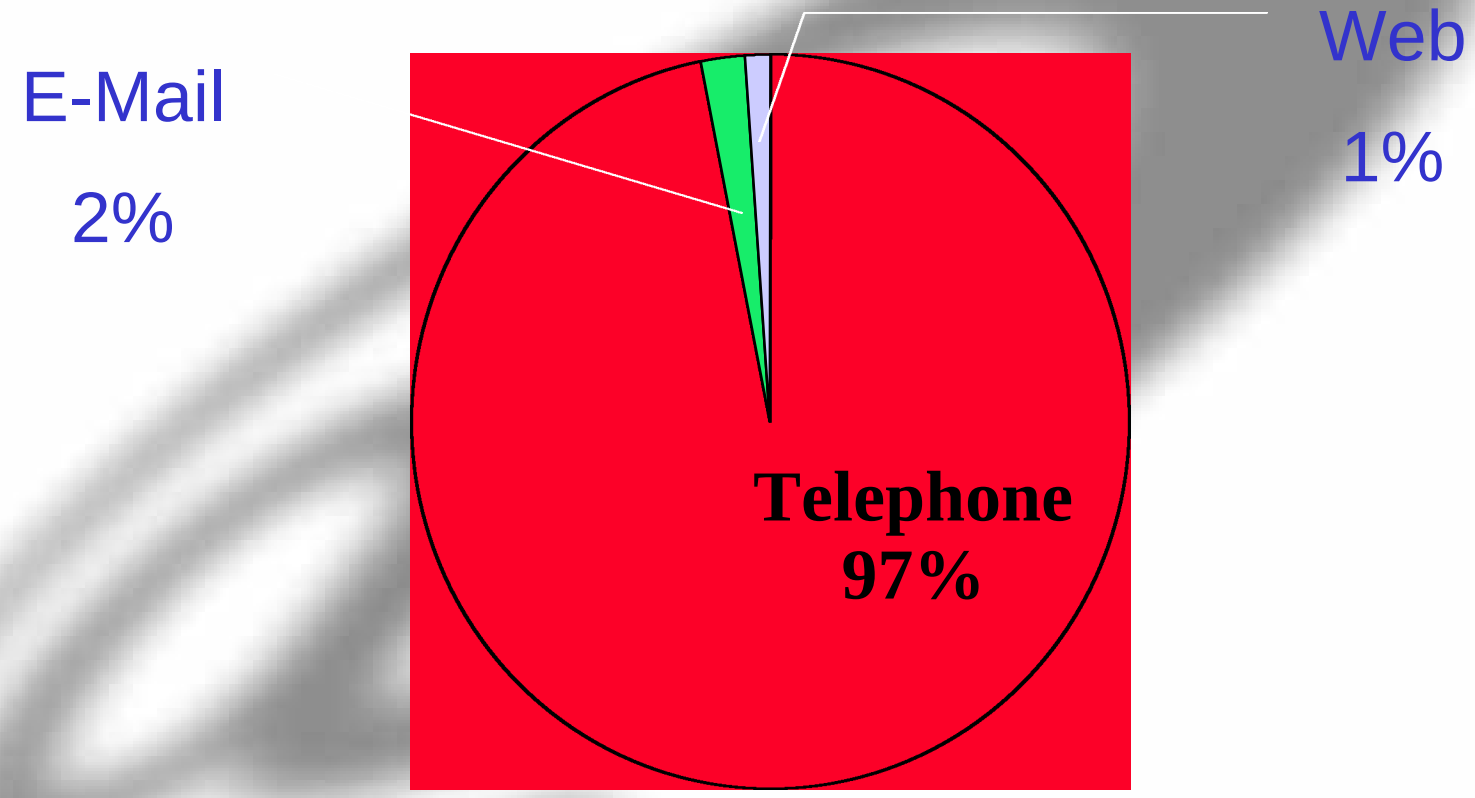
"There is no reason anyone would want a computer in their home."

- Ken Olsen, Founder
Digital Equipment Corp, 1977

"640K of RAM ought to be enough for anybody."

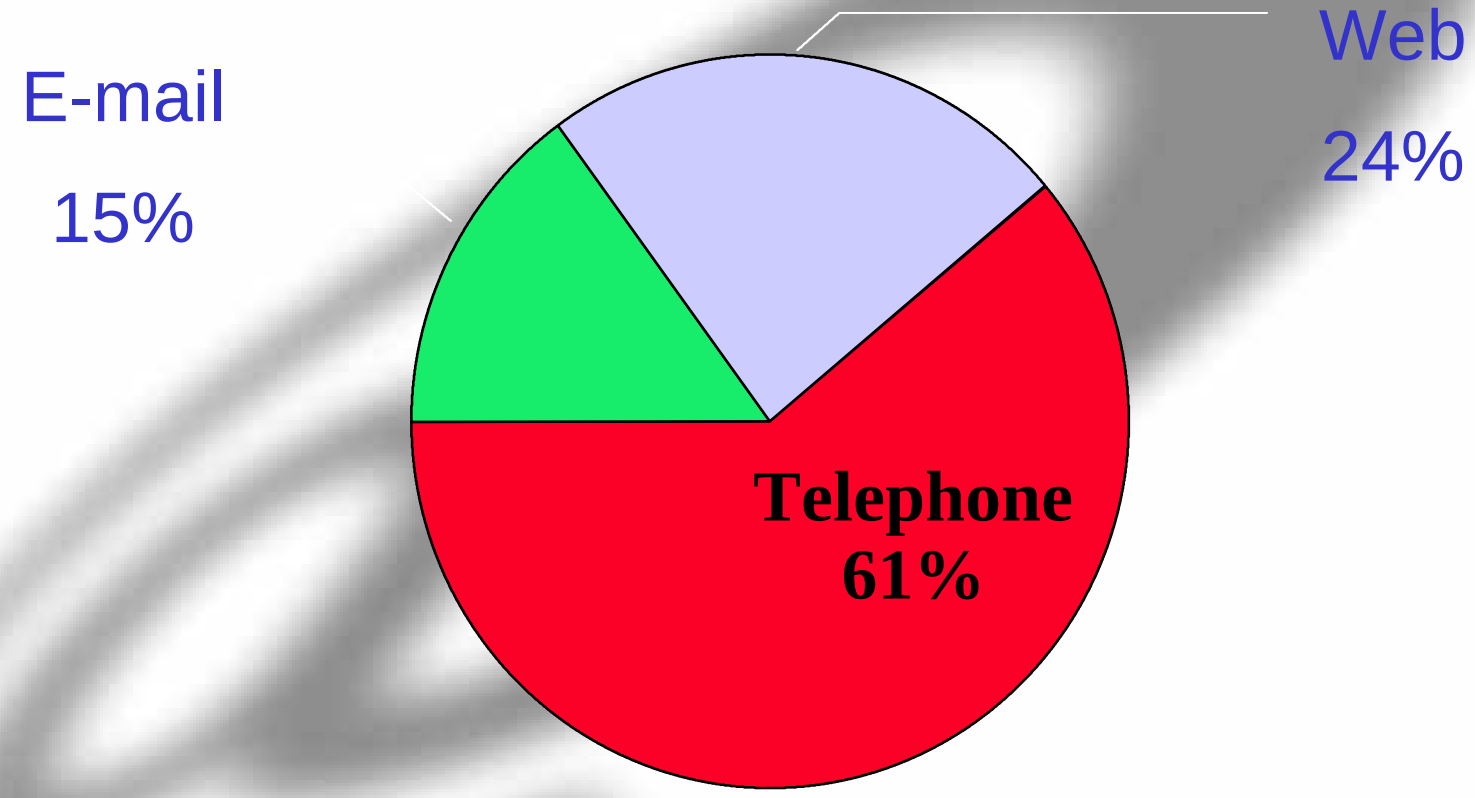
- Bill Gates, Founder, Microsoft, 1981

E-Communications



DATA: FORRESTER RESEARCH AND INFORMATIONWEEK
InformationWeek Online, "The Modern Call Center," October 4, 1999

E-Communications



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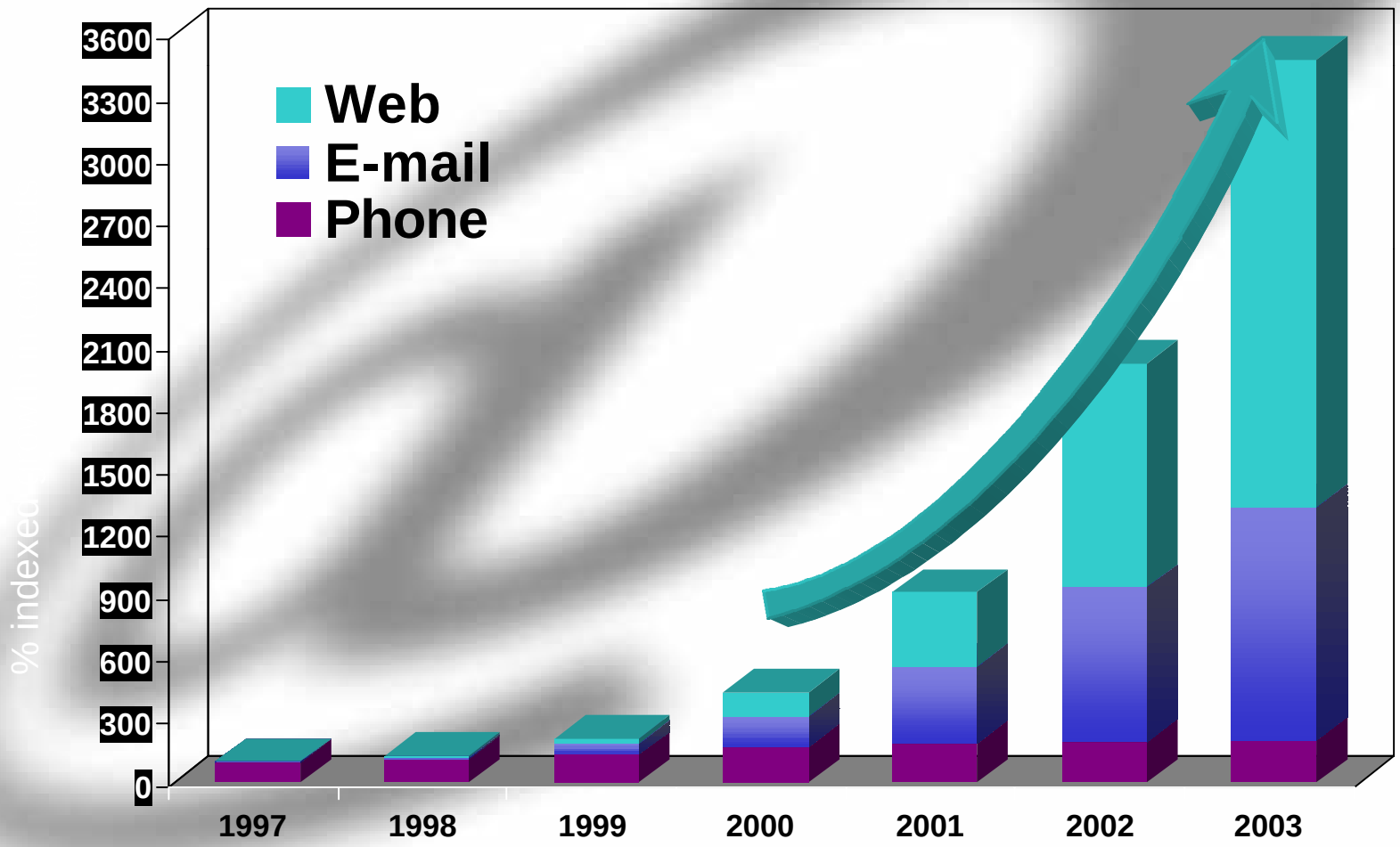
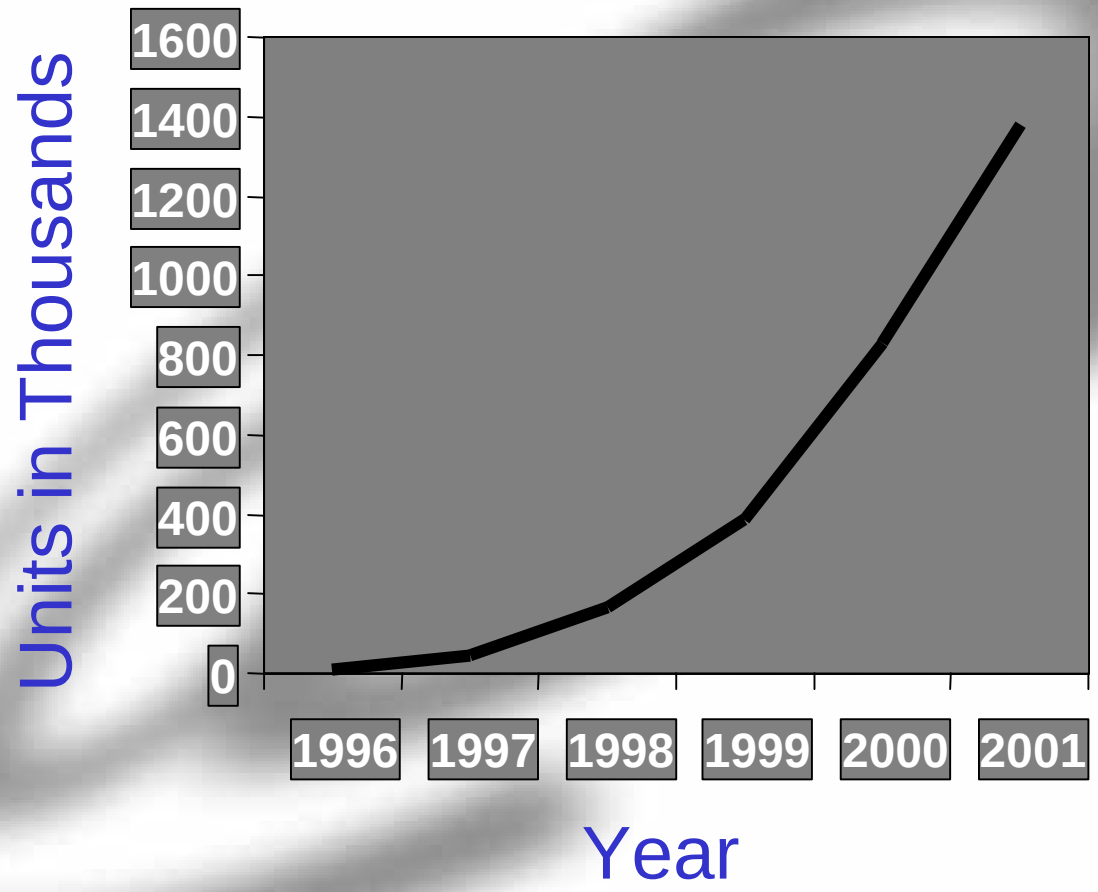
Increasing Volume of Web, E-Mail and Voice Transactions



Source: Forrester

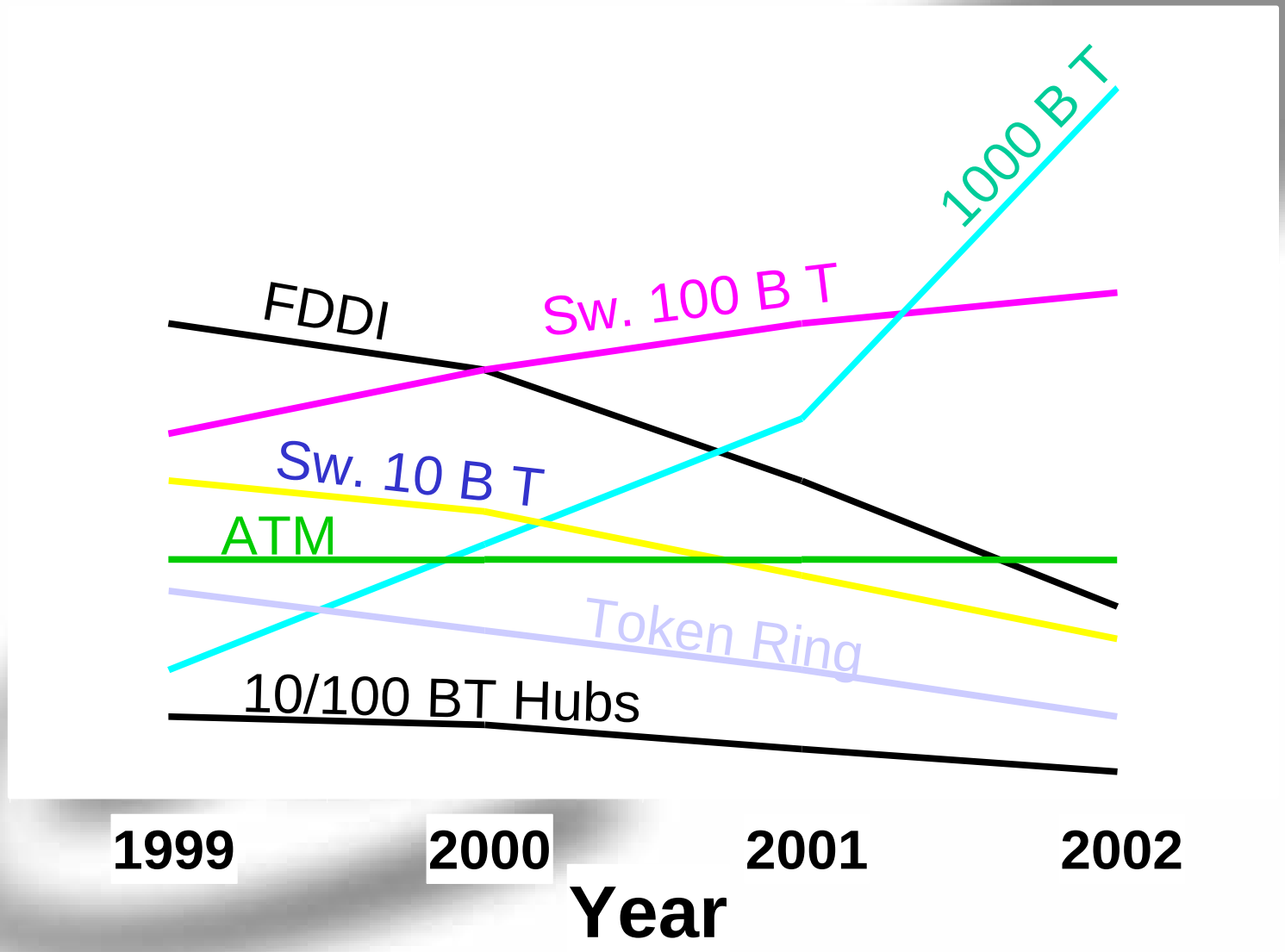
VoIP Global Forecast

Corporate Units



Source: Frost & Sullivan

New LAN backbones



Source: Meir Communications

Introduction - STC Members, STC Intro

- Strict Code Of Ethics
- Best of class, best of breed consultants
- A positive, professional influence in the telecommunications industry
- Educate ourselves regularly, adding value to our clients
- We network regularly with peers and develop strategic partnerships

Steve Green

- In business 16 years
- Graduate University of Wisconsin
- Engineer by trade
- Specialize in:
  - CTI Call Centers
  - Value-added networks for Legal Services
  - Specialized/hidden carrier offerings
  - Convergence of voice and data
- Involved with Legal Services projects 6+ years

Steve Leaden

- In telecom business 23+ years
- Graduate Marist College, NY
- Specialize in:
  - Call Centers
  - WANs//LANs/Internet design
  - Network value-adds
  - Convergence of voice and data
- Involved with Legal Services projects 4+ years

LSC History

Some LSC Engagements

- Clients
  - LAFLA
  - LASOC
  - LASSD
  - LARC
  - GBLS
  - ICLS
  - MLAC
  - MFY
- In Process
  - Ohio
  - Maryland
  - South Carolina

LSC Drivers

- To build a common knowledge base among advocates
- To integrate systems within LSC
- To build a virtual law firm among LSC sites
- To provide access to the Internet
- To improve cost infrastructure

LSC Issues

- Cost infrastructure
- Changes in ways of doing business
- Using technology as a tool
- Integrate voice and data
- Connect all sites
- Training; Personnel; Job Descriptions
- Case management software utilized

WAN Tutorial

Defining The Terms / General Concepts

- LANs
- WANs
- VPNs - two types
- Voice and telephone systems
- Public switched network
- Circuit switched vs. Packet switched
- Firewalls

Network Types

- **Dial Up**
  - POTS (300bps - 28.8Kbps)
  - 56K (56Kbps)
  - ISDN (128Kbps)
- **Hybrid**
  - DSL (thru T-1, 7MB download)
  - Cable Modems (thru T-1, 4MB download)
- **Packet**
  - X.25 (thru 64Kbps)
  - Frame Relay (56Kbps - 1.544Mbps)
  - ATM (155Mbps - 622Mbps & above)
- **Dedicated**
  - Analog (thru 19.2Kbps)
  - Digital (thru T-1/T-3)

Basic Transport Methods

- POTS Lines
- ISDN
- DSL
- Frame relay, ATM
- T-1, Fractional T-1, 56K, T-3 (rare)
- VPN (Internet)
- Satellite

Market Overview

- Dial-up
  - Faxing, voice telephone calls, modems, ISDN
- Packet switched services
  - Frame relay, ATM (Asynchronous Transfer Mode), X.25
  - The Internet
- Hybrids
  - DSL, Cable Modems
- Dedicated services
  - Tie lines or dedicated lines between two points, available full time for one application

Dial-Up Networks

- Advantages:
  - Low monthly offering without usage
  - Ability to access anywhere by modem
- Disadvantages:
  - Long initialization to access Internet or other private network
  - Costly if on line for more than a few minutes at a time

Packet Networks

- Advantages:
  - Cost effective network offering
  - 24 hour x 7 day availability
  - Allows for high and low traffic periods
  - Easier to administer and maintain
- Disadvantages:
  - Less desirable for voice communications
  - Public version (Internet) less secure, subject to peak off peak periods

Hybrids

- Advantages
  - Low monthly offering with usage
  - 24 hour x 7 day availability
  - Allows for high and low traffic periods
  - Easier to administer and maintain
- Disadvantages
  - Less desirable for voice communications
  - Public version (Internet) less secure, subject to peak off peak period

Dedicated Networks

- Advantages:
  - Most private of network types available
  - Most bandwidth available for a single application
  - 24 hour x 7 day availability
- Disadvantages:
  - Does not take advantage of lower usage times
  - Most costly of the options available today

Internet Access

- Uses IP
- Dial-up vs. full-time access
- VPN options
- Intranets
- Common cost infrastructure
- HTML enabled environments
- Firewalls needed for security

Standards - Old vs. New

- Circuit switched - 64K per second “increments”
  - Clear channel, high quality, especially voice
  - Dedicated pipe for each application
- Packet switched - more flexible, more cost-effective
  - Excellent data media
  - Voice applications migrating to this media

Recent Technological Changes/Advancements

- Voice
  - VoIP, Internet Telephony
  - CTI/Unified Messaging
  - Centralized voice mail
  - Call center advancements
    - Industry advances
    - Links with case management

Recent Technological Changes/Advancements

- Data
  - Dramatic changes in carrier costs
  - Frame Relay Services
  - VPNs (Internet)
  - Hardware Pricing
  - Security

Other Advancements

- VPNs via the Internet
- Access to Westlaw and Lexis Nexis via the Internet
- To share with select pro-bono and other groups select LSC knowledge

Why WANs

Distributing Data to Multi-Site Organizations

- Solution A - Relocate the offices
- Solution B - Distribute the data over a WAN

WANs - Why Not In The Past

- WAN hardware and data transport costly
- Technological advancements now
- Data transport now competitive
- Equipment less costly
- WAN can function with a hot line call center

WANs - Why Now - Databases/Software

- Software improvements
- Citrix/SQL solutions
- Older DOS or legacy software
  - Not LAN/WAN friendly
  - Larger bandwidth requirements, bandwidth “hogs”
- Examples - new solutions
  - LASSD (Dennis Holz)
  - LAFLA (Lucci Moreira) - presenter

WAN Advantages

- Data transfer rates faster
- Internet access is full–time and faster
- Eliminates dial-up per minute charges
- All users can access the network simultaneously

WAN Advantages

- Eliminates the need to sign-on and wait for modems to connect
- Easier to add individuals as the network grows
- More difficult to hack
- Less susceptible to “line hits” and dropped calls/sessions

WAN Additional Benefits

- E-Mail distribution
- Westlaw/Lexis Nexis browsing
- Internet access/browsing
- Free phone calls - interoffice
  - VoIP
  - Clear channel voice (channels)
- Centralized voice mail
- Least Cost Routing

Differences In New Software Configurations

- Less Bandwidth needed
- Individual cases pulled across the network
- Network Synchronization

Transport Methods Utilized

- Dial-Up
  - Local telephone company lines
  - ISDN
- Hybrids
  - DSL ($39 - $69 per month)
  - Cable modems
- Packet Switched
  - Frame Relay
  - ATM
  - Internet (VPN)
- Dedicated networks (almost passe')

The Market Trend Is ...

- "We are moving from a dedicated circuit world to a packet-switched world"
- "Always on"
- Chambers' Law: "Internet years are like dog years: one year on the Internet is like seven regular years."

The Process

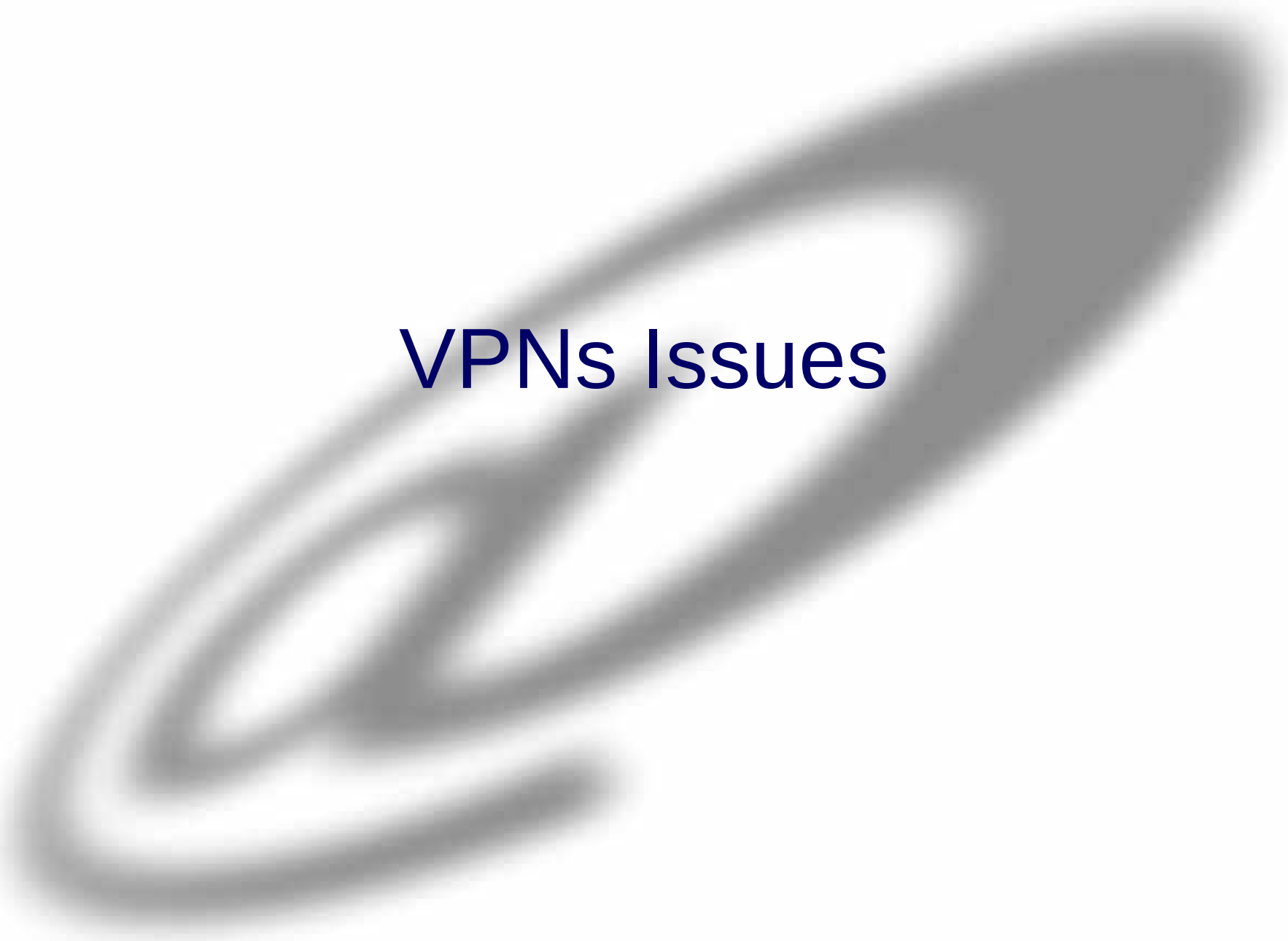
- Needs Assessment
- Systems and Network Procurement
- Project Management, Implementation
- Project Documentation

Needs Assessment

- Examine traffic types and loads
- Possibilities for centralized voice mail and “internal” voice call traffic
- E-mail, Legal and Internet Browsing
- Determine availability of transport facilities

Needs Assessment

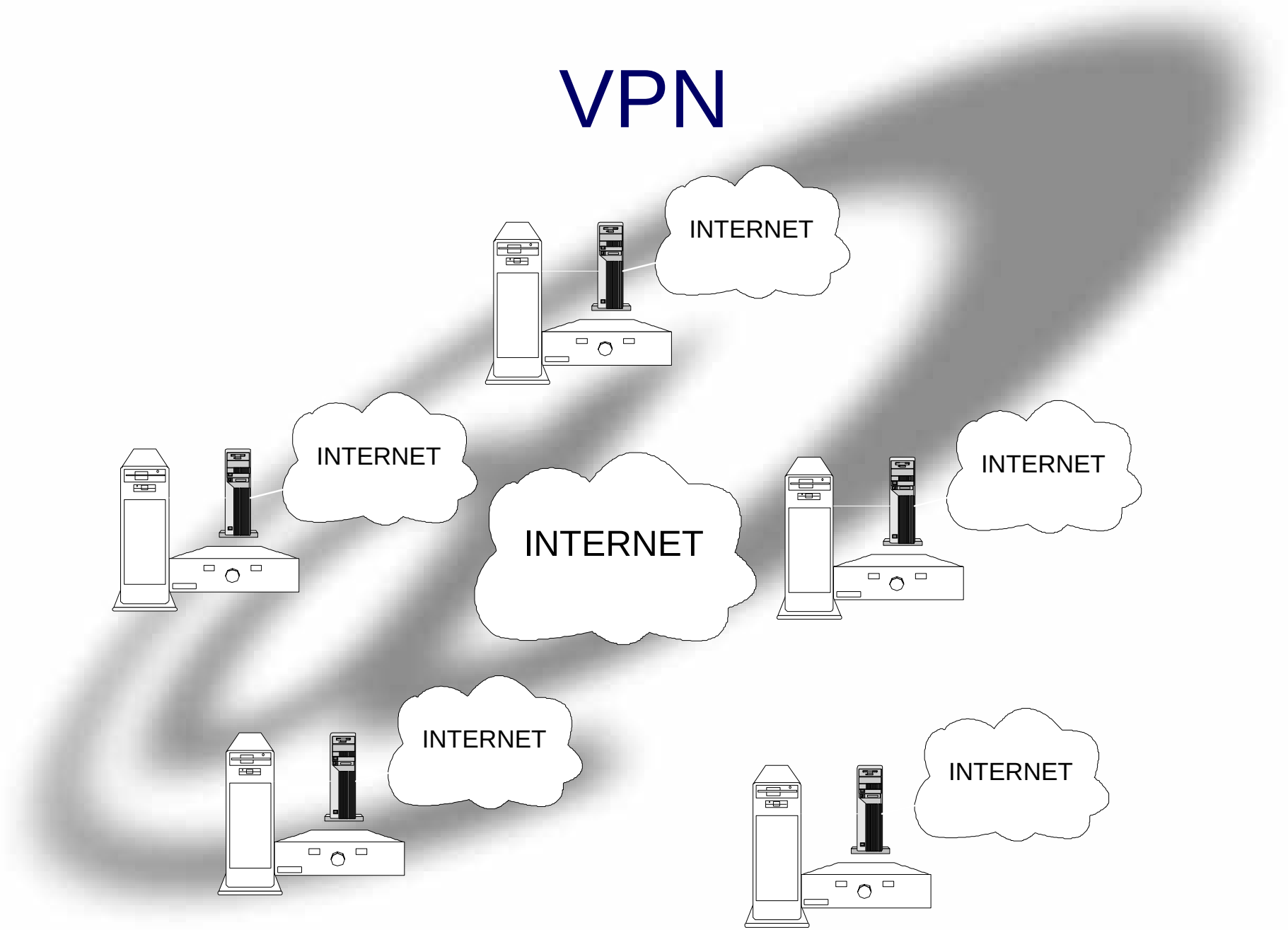
- Justify/Qualify
  - Equipment
  - Facility type(s)
  - Bandwidth requirements
  - Each location
- Show the value-adds of the new network / cost offsets



VPNs Issues

- VPNs are a means of moving information between trusted network segments over untrusted network segments
- A VPN replaces all “private” line circuits with access through the Internet

VPN

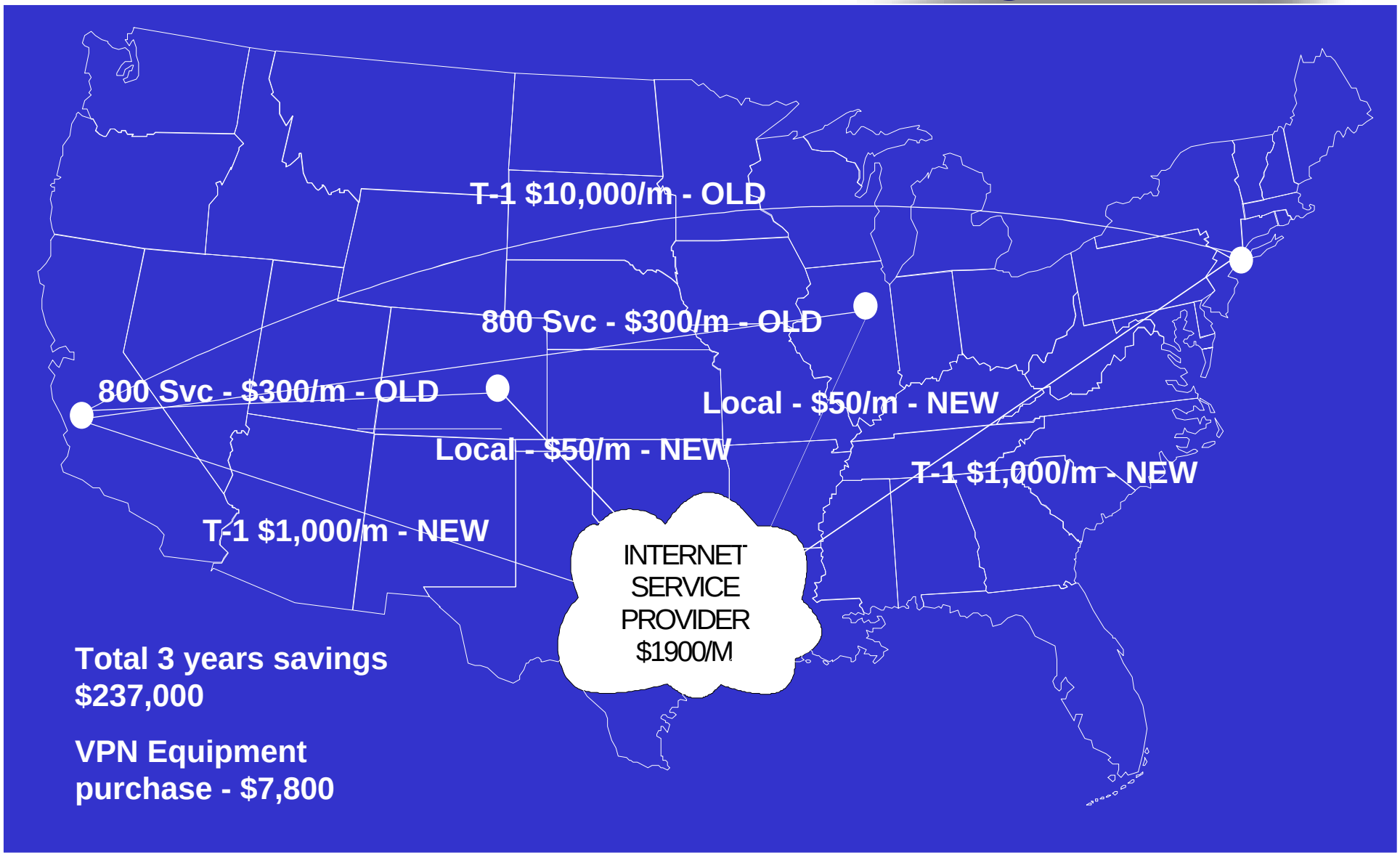


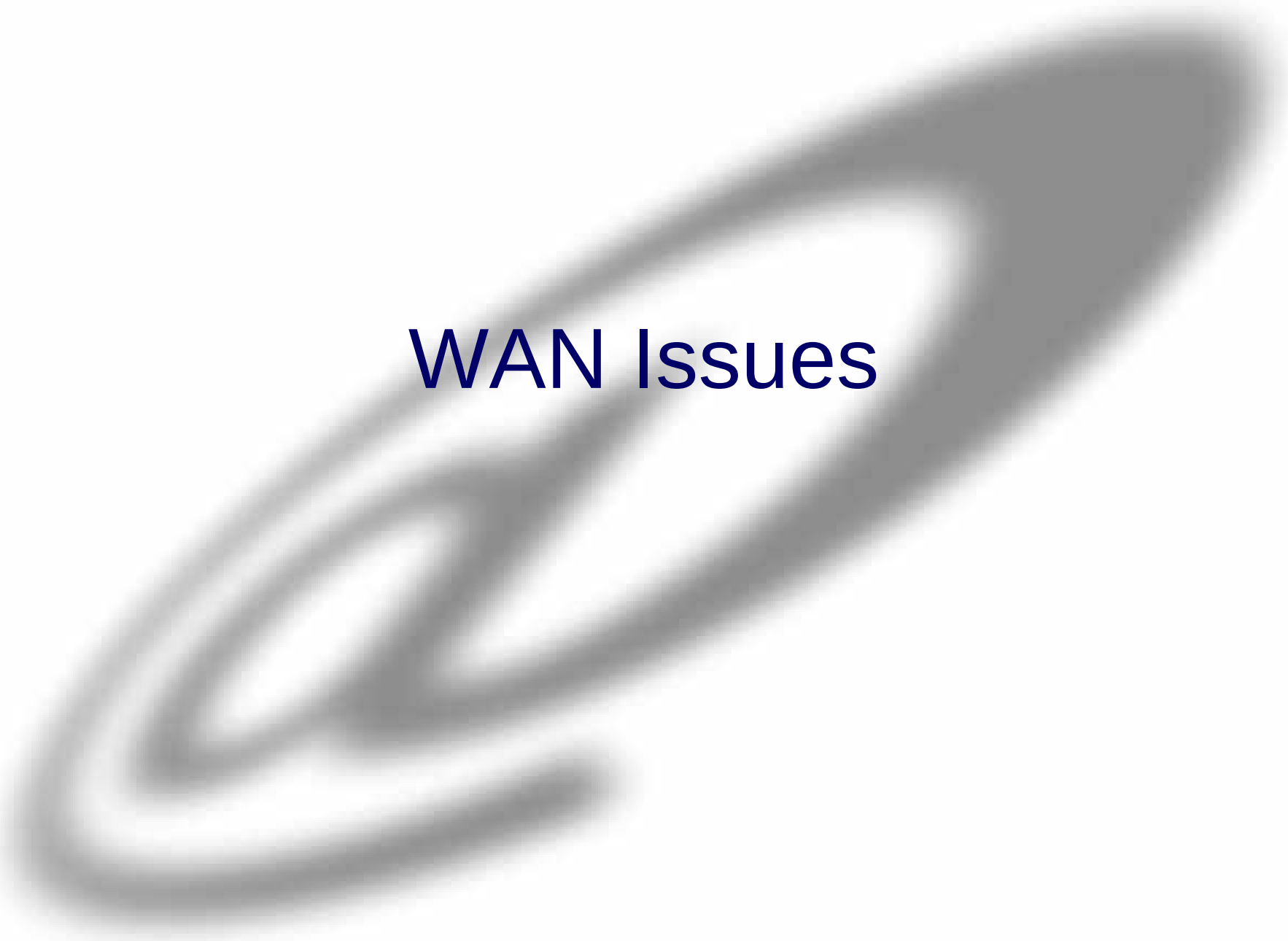
- A cost effective way to connect a network to the Internet while protecting the internal network
- Serves multiple purposes
  - Restricts people to entering at a carefully controlled point
  - Prevents attackers from getting close to the client defenses
  - Restricts people to leaving at a carefully controlled point

VPN Issues

- Cost reductions (significant)
- Virtual access from anywhere
- Quality of Service (QoS)
- Security, security, security
- Ongoing management
- In-house vs.. outsourced VPNs

VPN Cost Advantages





WAN Issues

Challenges To Implementation

- “It’s not my problem”
- Installation and configuration issues
  - Telco
  - Hardware
- Ongoing network management

Long Distance Advertising

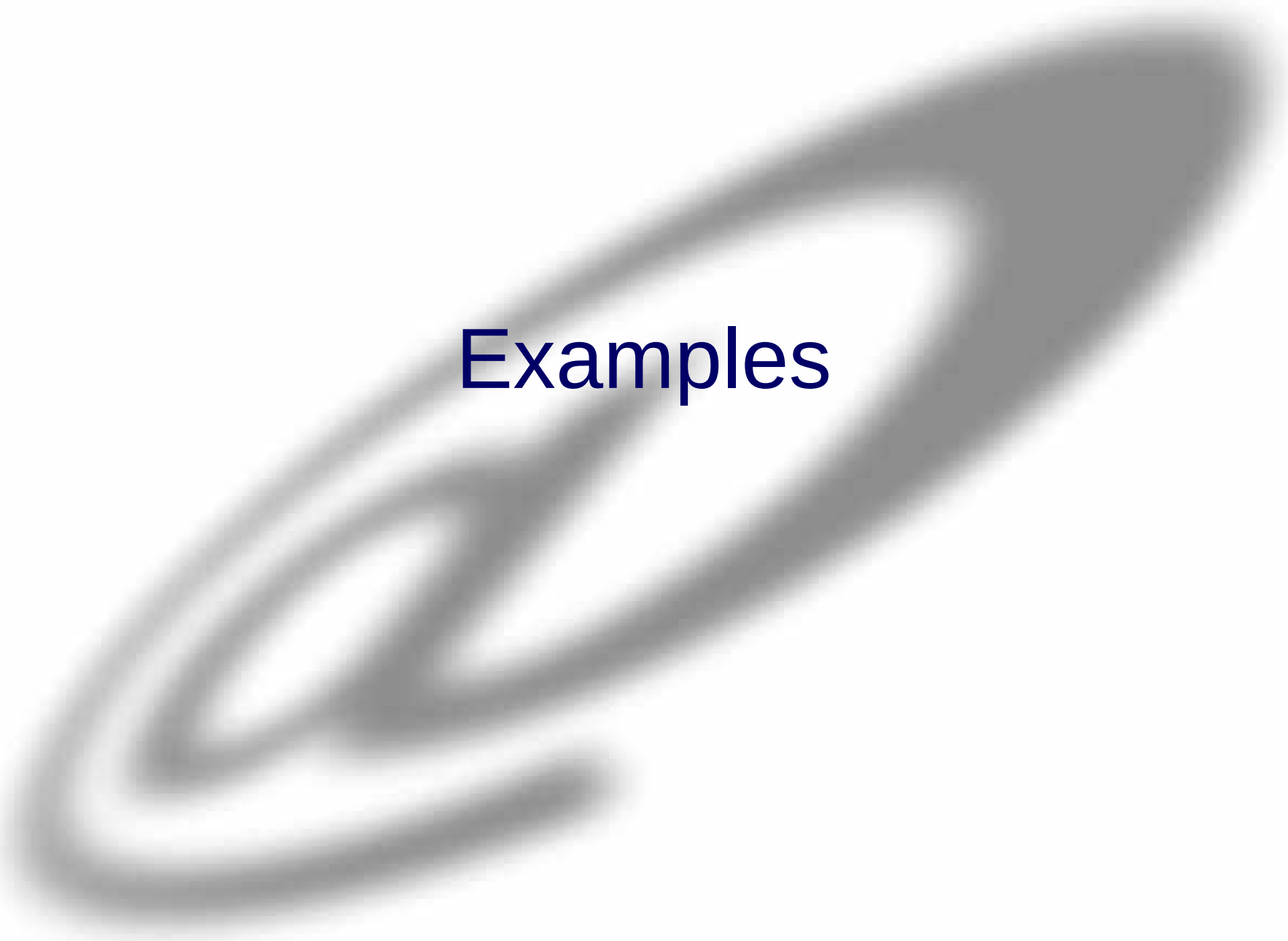
- Misrepresentation #1
  - "Long Distance Calls Cost 10¢ a Minute"
  - In fact, all calls are subject to a 50¢ minimum charge.
- Misrepresentation #2
  - "Long Distance Calls Cost 10¢ per Minute"
  - In fact, rate is only available if pay $5.95 monthly fee

Major Bell LEC Backsliding

- March 9 FCC Order
  - Enters Consent Decree
  - Failure to Lawfully Process Interconnection Orders
    - Mishandled/Lost Orders
  - Voluntary Payment of $3 Million; Liable up to $24 Million
  - FCC Backsliding Team

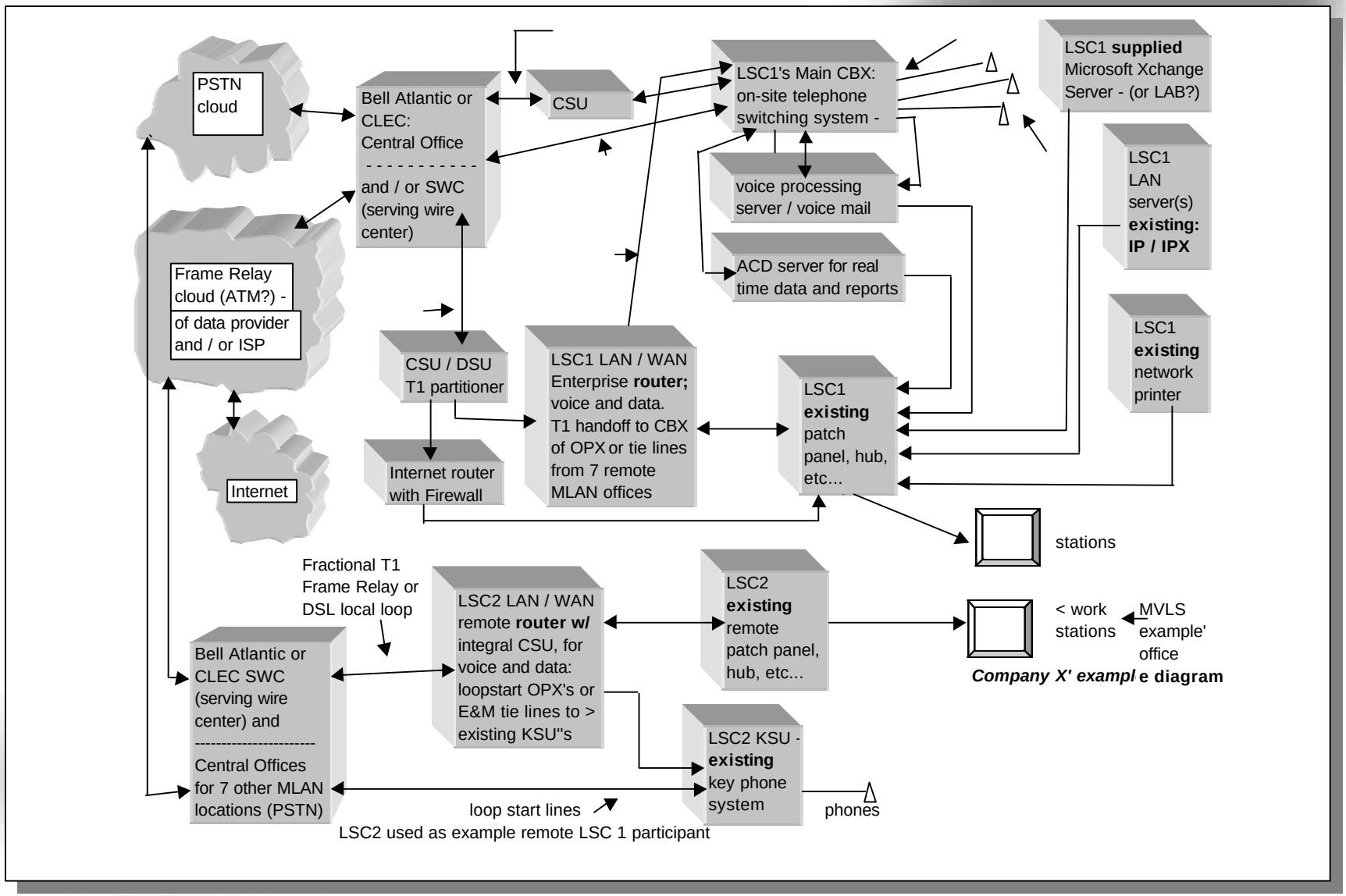
Major Bell LEC Backsliding

- Service Order Deterioration
  - Trouble Tickets
    - 11/99: 33,000
    - 12/99: 60,000
    - 1/00: 86,000
    - 2/1-11/00: 48,000
- Impacts CLECs and Local Service Resellers

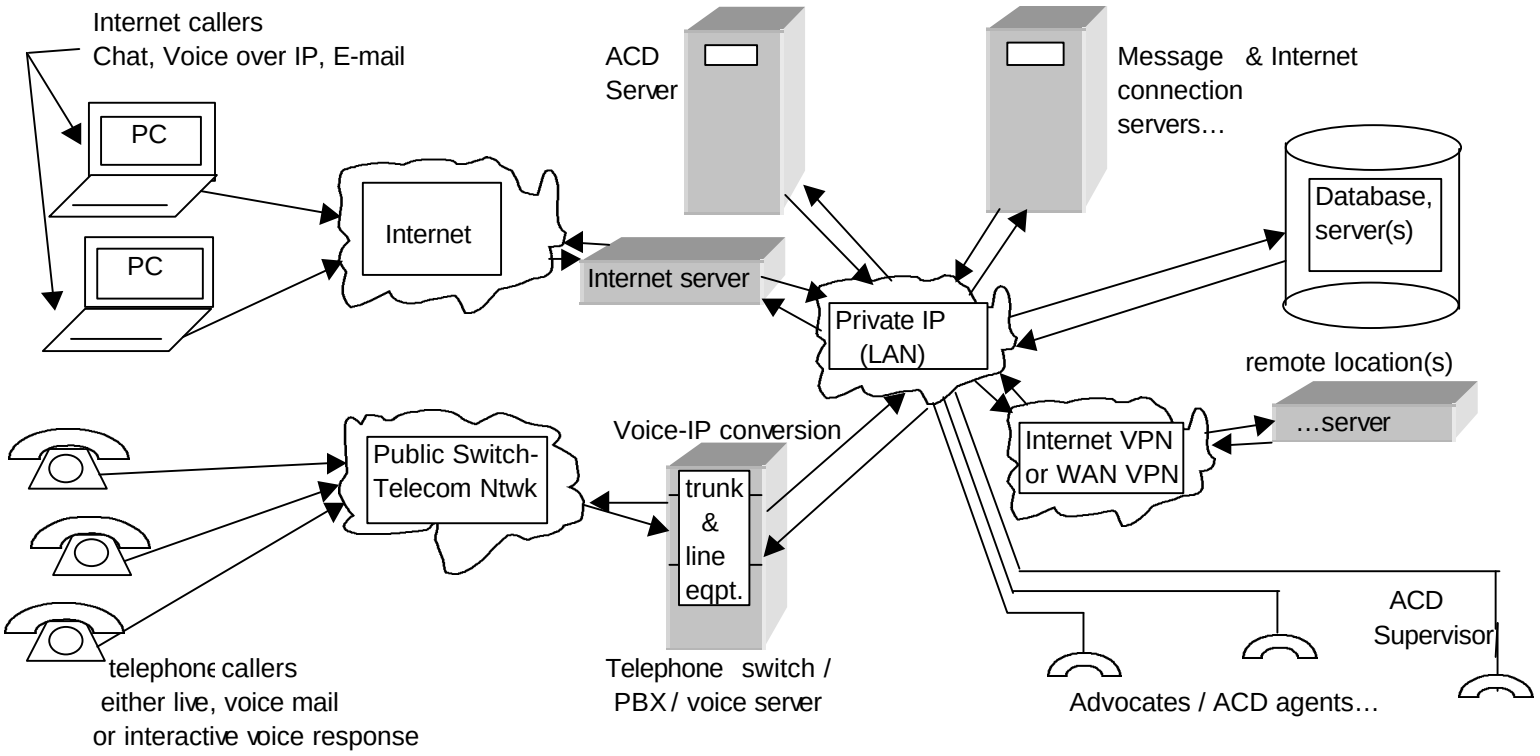


Examples

LSC Client, East Coast

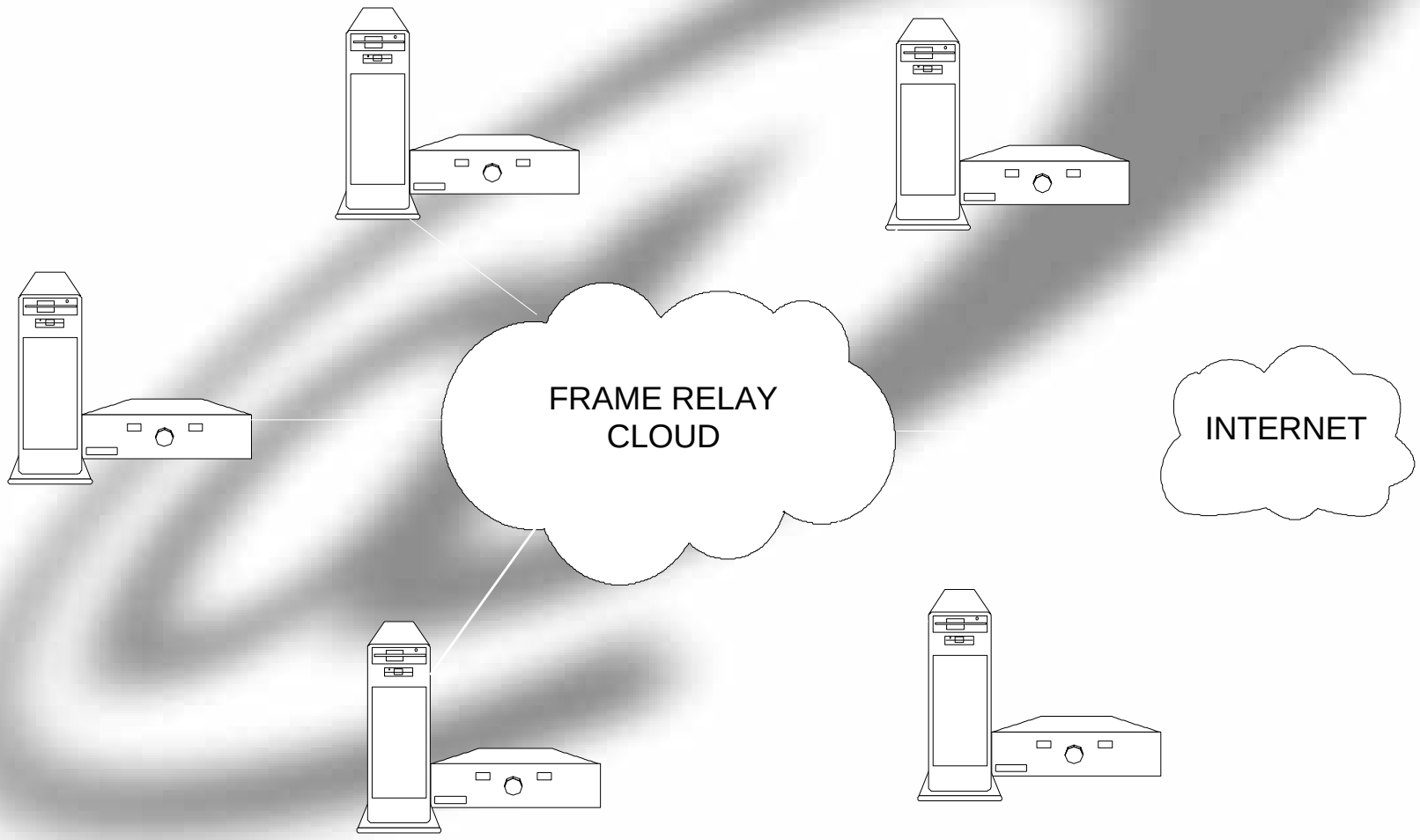


I-CAN Network Diagram

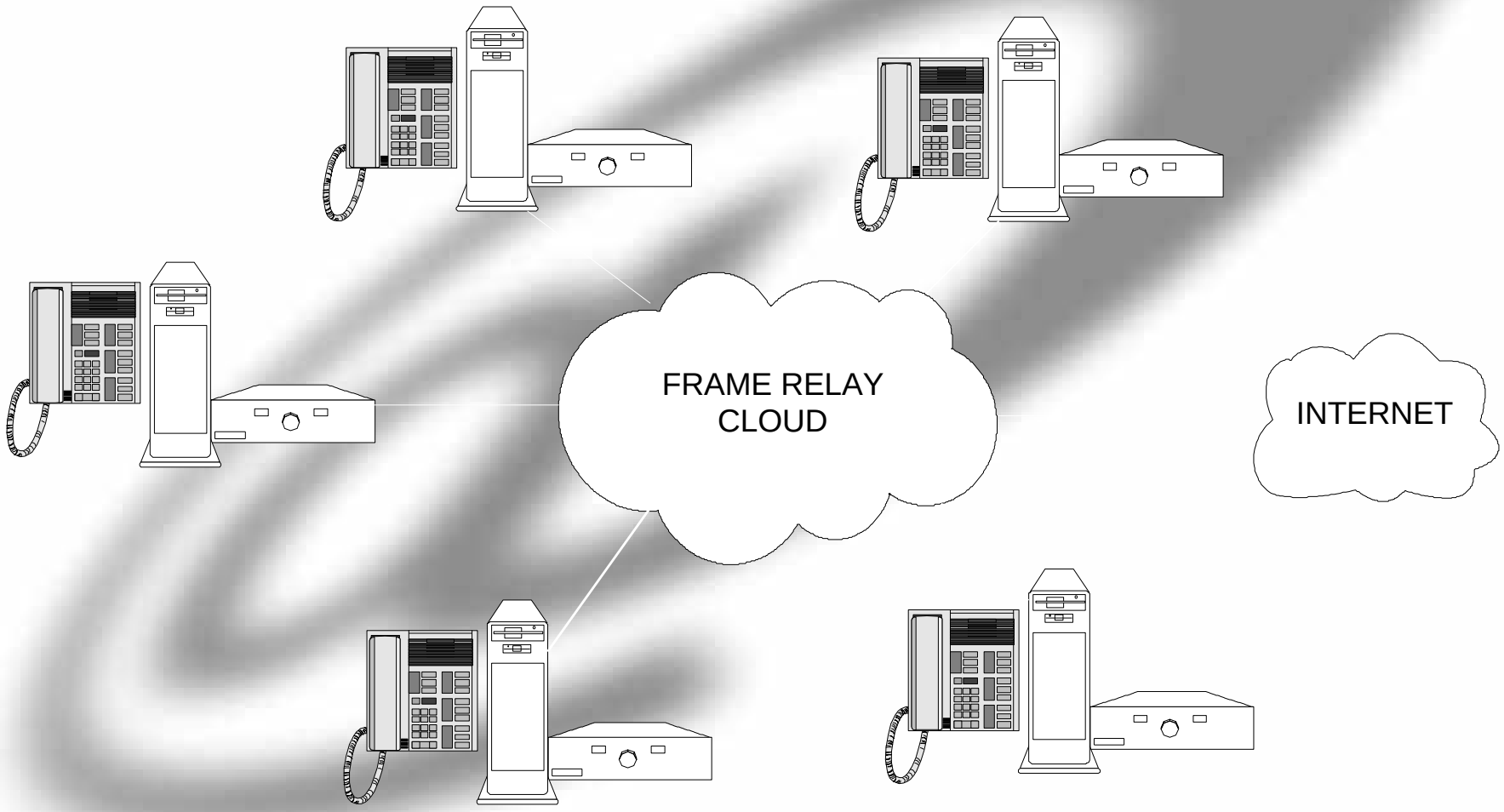


I-CAN Network Diagram
Submitted to:
Legal Aid Society of Orange County
12 March, 00
S. R. Green & Associates

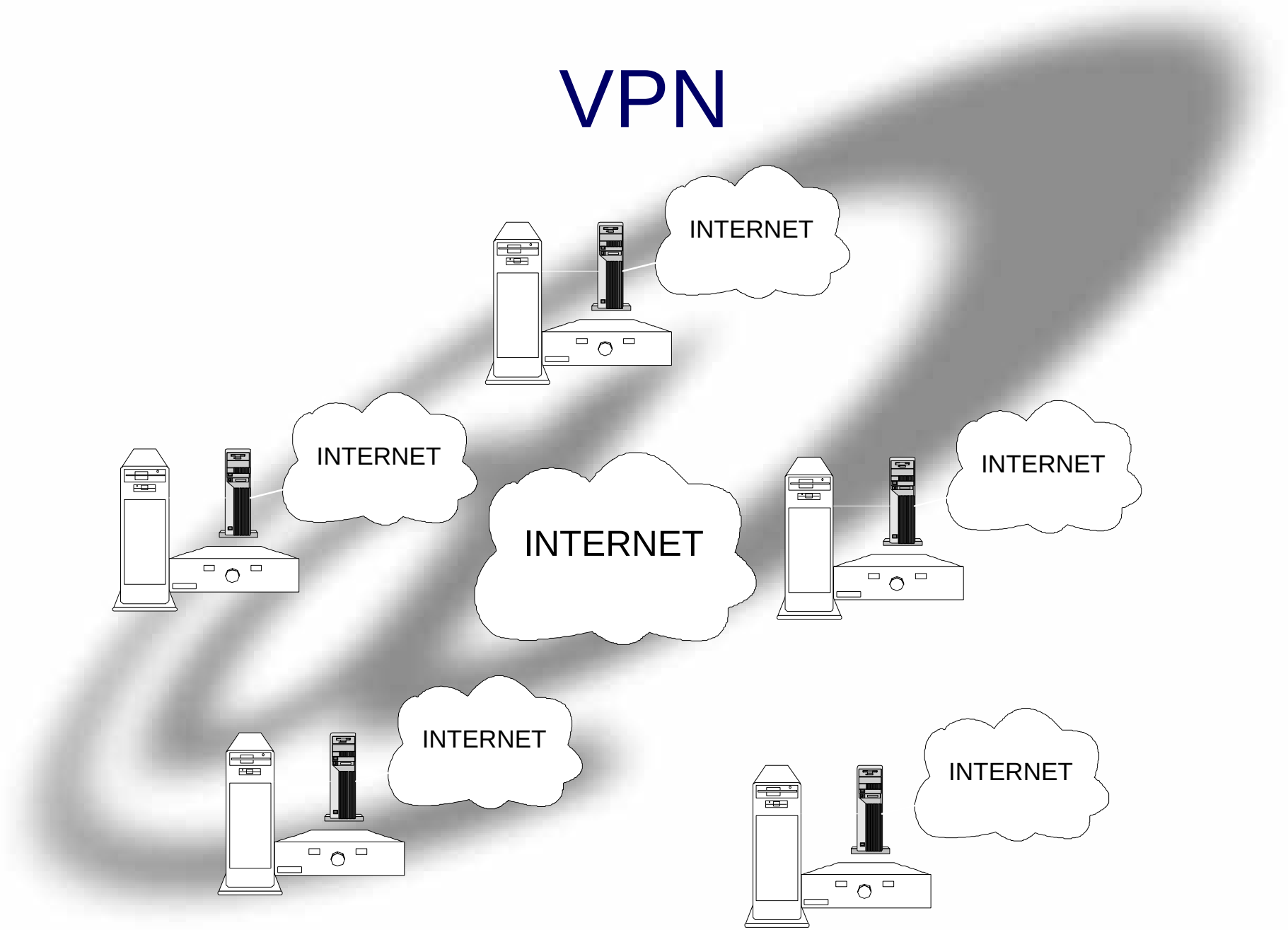
Private Frame Network

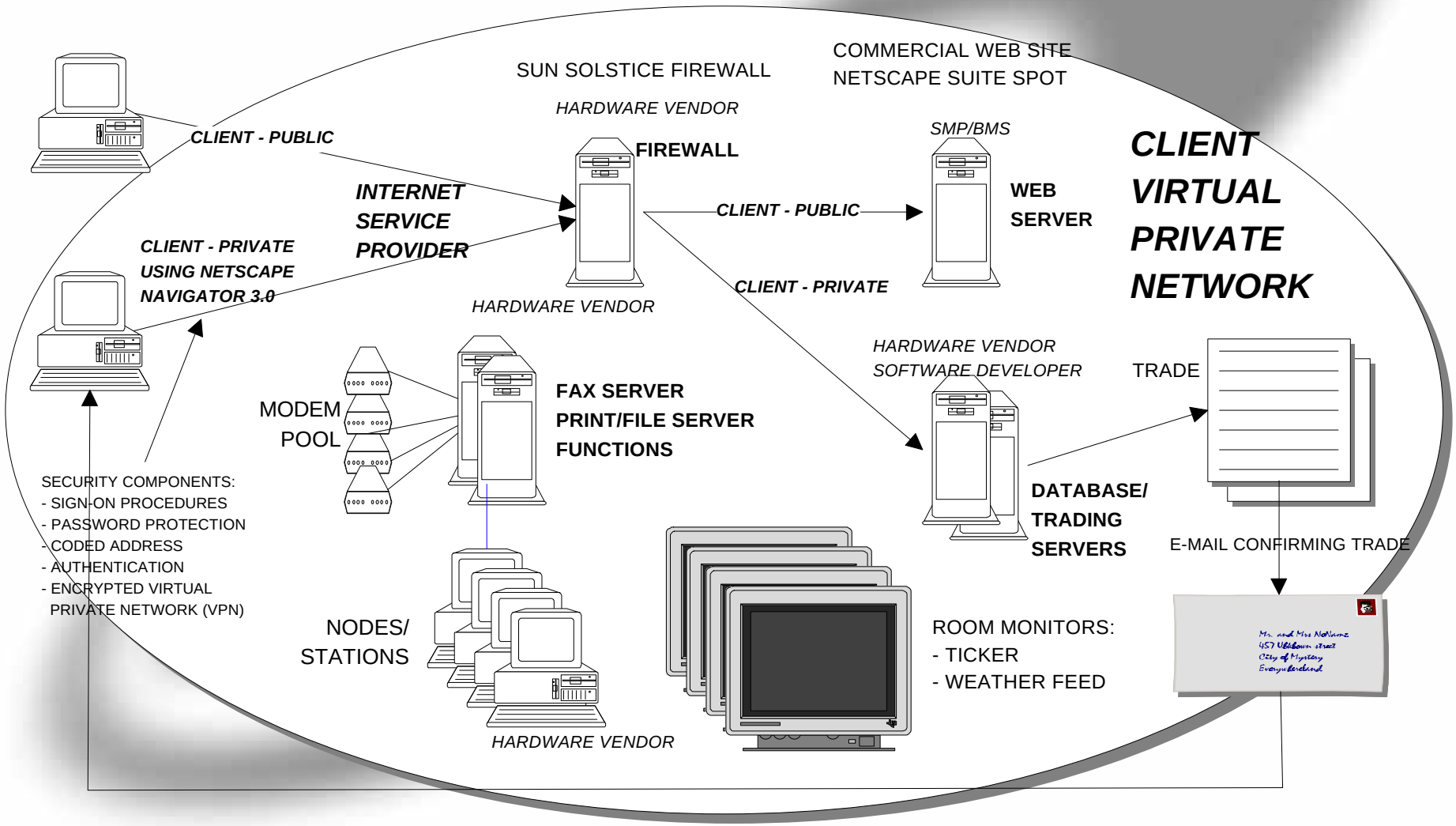


Converged Model - VoIP, Clear



VPN




SUN SOLSTICE FIREWALL
HARDWARE VENDOR
COMMERCIAL WEB SITE
NETSCAPE SUITE SPOT
SMP/BMS
CLIENT - PUBLIC
FIREWALL
INTERNET
SERVICE
PROVIDER
CLIENT - PUBLIC
WEB
SERVER
CLIENT
VIRTUAL
PRIVATE
NETWORK
CLIENT - PRIVATE
USING NETSCAPE
NAVIGATOR 3.0
HARDWARE VENDOR
CLIENT - PRIVATE
HARDWARE VENDOR
SOFTWARE DEVELOPER
TRADE
MODEM
POOL
FAX SERVER
PRINT/FILE SERVER
FUNCTIONS
DATABASE/
TRADING
SERVERS
SECURITY COMPONENTS:
- SIGN-ON PROCEDURES
- PASSWORD PROTECTION
- CODED ADDRESS
- AUTHENTICATION
- ENCRYPTED VIRTUAL
PRIVATE NETWORK (VPN)
E-MAIL CONFIRMING TRADE
NODES/
STATIONS
ROOM MONITORS:
- TICKER
- WEATHER FEED
HARDWARE VENDOR

Final Quote

“It requires a healthy dose of paranoia to balance technological abilities with customer needs, knowing there is an unlimited upside.”

- John Chambers, Cisco Systems

Quote

“Paranoia is very important - the day we get complacent is the day we’re in deep, deep trouble.”

- Steve Case, AOL